DENR USE ONLY: ☐ Paper Report ☐ Electronic Data - Email CD (data loaded: Yes / No) Doc/Event #:

NC DENR
Division of Waste Management - Solid Waste

Environmental Monitoring Reporting Form

Notice: This form and any information attached to it are "Public Records" as defined in NC General Statute 132-1. As such, these documents are available for inspection and examination by any person upon request (NC General Statute 132-6).

Instructions:

- **Prepare one form for each individually monitored unit.**
- **Please type or print legibly.**
- Attach a notification table with values that attain or exceed NC 2L groundwater standards or NC 2B surface water standards. The notification must include a preliminary analysis of the cause and significance of each value. (e.g. naturally occurring, off-site source, pre-existing condition, etc.).
- Attach a notification table of any groundwater or surface water values that equal or exceed the reporting limits.
- Attach a notification table of any methane gas values that attain or exceed explosive gas levels. This includes any structures on or nearby the facility (NCAC 13B .1629 (4)(a)(i).
- In accordance with NC General Statutes Chapter 89C and 89E and NC Solid Waste Management Rules 15A NCAC 13B, be sure to affix a seal to the bottom of this page, when applicable.
- Send the original signed and sealed form, any tables, and Electronic Data Deliverable to: Compliance Unit, NCDENR-DWM, Solid Waste Section, 1646 Mail Service Center, Raleigh, NC 27699-1646.

Solid Waste Monitoring Data Submittal Information

Name of entity submitting data (laboratory, consultant, facility owner):

Municipal Engineering Services Co., P.A. (MESCO)

Contact for questions about data formatting. Include data preparer's name, telephone number and E-mail address:

Name: Jonathan Pfohl Phone: (919) 772-5393

E-mail: jpfohl@mesco.com

Facility name:	Facility Address:	Facility Permit #	NC Landfill Rule: (.0500 or .1600)	Actual sampling dates (e.g., October 20-24, 2006)
Lenoir County Subtitle D Lined MSWLF, Phase 1	2949 Hodges Farm Road LaGrange, NC 28501	54-09	.1600	July 15, 2008

Environmental Status: (Check all that apply)

☐ Initial/Background Monitoring ☒ Detection Monitoring ☐ Assessment Monitoring ☐ Corrective Action

Type of data submitted: (Check all that apply)

☒ Groundwater monitoring data from monitoring wells
☐ Groundwater monitoring data from private water supply wells
☒ Leachate monitoring data
☐ Surface water monitoring data
☐ Methane gas monitoring data
☐ Corrective action data (specify)
☐ Other(specify)

Notification attached?

☒ No. No groundwater or surface water standards were exceeded.
☐ Yes, a notification of values exceeding a groundwater or surface water standard is attached. It includes a list of groundwater and surface water monitoring points, dates, analytical values, NC 2L groundwater standard, NC 2B surface water standard or NC Solid Waste GWPS and preliminary analysis of the cause and significance of any concentration.
☐ Yes, a notification of values exceeding an explosive methane gas limit is attached. It includes the methane monitoring points, dates, sample values and explosive methane gas limits.

Certification

To the best of my knowledge, the information reported and statements made on this data submittal and attachments are true and correct. Furthermore, I have attached complete notification of any sampling values meeting or exceeding groundwater standards or explosive gas levels, and a preliminary analysis of the cause and significance of concentrations exceeding groundwater standards. I am aware that there are significant penalties for making any false statement, representation, or certification including the possibility of a fine and imprisonment.

Jonathan Pfohl	Environmental Specialist	(919) 772-5393
Facility Representative Name (Print)	Title	(Area Code) Telephone Number
Signature	1/6/09 Date	Affix NC Licensed/ Professional Geologist/Engineer Seal here:

Revised 01/2007

Groundwater Sampling Report and Statistical Analysis

Prepared for

Lenoir County Subtitle D Lined MSWLF, Phase 1
LaGrange, North Carolina

July, 2008

Permit Number: 54-09
MESCO Project Number: G08029.0

Completed on January 6, 2009

Municipal Engineering Services Company, P.A.
Garner, Boone and Morehead City, North Carolina

OPERATION/CONSTRUCTION MANAGERS

Municipal Services

CIVIL/SANITARY ENGINEERS

Engineering Company, P.A.

January 6, 2009

Ms. Jaclynne Drummond
Solid Waste Section
Division of Waste Management
North Carolina Department of Environment and Natural Resources
401 Oberlin Road, Suite 150
Raleigh, NC 27605

Re: Groundwater Sampling and Statistical Analysis
Lenoir County Subtitle D Lined Landfill, phase 1
Permit No. 54-09
MESCO Project No. G08029.0

Dear Ms. Drummond:

Municipal Engineering Services Company, P.A. (MESCO) completed the sampling report and statistical analyses for the Lenoir County Subtitle D Lined Landfill, phase 1 located near LaGrange, NC. Environment I of Greenville NC, sampled and analyzed the active lined landfill on July 15, 2008 as part of the detection monitoring program. Per the approved sampling and analysis plan (SAP) the detection monitoring program consists of downgradient wells (MW-14, MW-15, MW-16, MW-17, and MW-18), surface water (SW-3), background well (MW-13), and the leachate lagoon (LAGOON). Samples were procured from all of the monitoring locations with the exception of surface water SW-3 since it was reported to be dry. All of the monitoring wells were analyzed for the complete Appendix I list of VOCs and total metals. The lined leachate lagoon was analyzed for the required leachate list of parameters which also includes the complete Appendix I constituents. All parameters were analyzed and reported utilizing the stringent Method Detection Limits (MDL) with reference to the Solid Waste Section Detection Limits (SWSL) and Groundwater Protection (GWP) values current as of the sampling date. All of the laboratory results are included herein.

All of the detected constituents were compared with NCGW2L Standards for regulatory exceedance. The results are shown in the enclosed tables titled "Detection Scan". Consistent with historical events very few constituents were detected during this event. Barium within MW-17 was the only constituent detected above the SWSL sitewide. All of the laboratory results are included herein.

Water levels were obtained from a few existing piezometers around the phase 1 area.. These readings were utilized to supplement the water elevations from the monitoring wells to construct a more accurate potentiometric surface. MESCO completed the enclosed potentiometric map with groundwater elevations on the day of sampling including calculated flow rates and direction.

MESCO also completed the statistical analysis as required by the Solid Waste Section. The purpose of these analyses is to determine, in comparison to background levels, statistical significance of constituents detected within the monitoring wells during the July 2008 event.

PO Box 97, Garner, North Carolina 27529 (919) 772-5393
PO Box 828, Morehead City, NC 28557 (252) 726-9481 PO Box 349, Boone, North Carolina 28607 (828) 262-1767

Statistical Analysis Methodology

Metals

An inter-well statistical analysis was conducted upon the metal detected during this sampling event. Monitoring well MW-13 was defined as the background well, and an upper tolerance limit (UTL) with 95% coverage was computed for each detected constituent from the background data at a 95% level of confidence. For each tested constituent, an appropriate statistical analysis method was selected based on the percentages of non-detects (%ND) in the historical background data. The following table (Table 1) summarizes the methods used for four different %ND ranges.

Table 1. Statistical Analysis Methods for Various %ND Ranges

%ND	Analysis Method	ND Substitution
%ND<15%	Parametric tolerance limit	1/2 ND
15%<%ND<50%	Parametric tolerance limit	Cohen or 1/2 ND
50%<%ND<90%	Non-parametric tolerance limit	1/2 ND
90%<%ND	Poisson tolerance limit	-

NOTE: For parametric tolerance interval, normality of the background data was checked by the Shapiro-Wilks normality test, as the method requires that the data be normally distributed.

A preliminary data screening was conducted upon the metals detected in all monitoring locations. Detected parameters with concentrations found below quantifiable levels were eliminated and a statistical analysis was not conducted upon these wells. A total of 1 metal was tested for statistical significance. For barium within MW-17 the non-parametric tolerance limit with ½ ND substitution was utilized on the data as the parameter had a non-detection rate of 72% within the background well.

Results

Historical data compiled for monitoring well MW-13 was used as the baseline. Data distributions were reviewed using time series and box and whiskers plots (enclosed charts). No metals were found to have increased in concentration according to interwell comparison analyses.

Conclusion

The Subtitle D Lined Landfill will continue detection monitoring with the next semi-annual water sampling event scheduled for January 2009. Please contact me by phone at (919) 772-5393 or by email at jpfohl@mesco.com if you have any questions or comments.

Sincerely,
MUNICIPAL ENGINEERING SERVICES CO., P.A.

Jonathan Pfohl
Environmental Specialist

Enclosures
cc: Mr. Tom Miller
Lenoir County

Statistical Analysis Results Summary

Inter-Well Analysis Summary
Lenoir County Subtitle D Lined Landfill

Background Well: MW-13

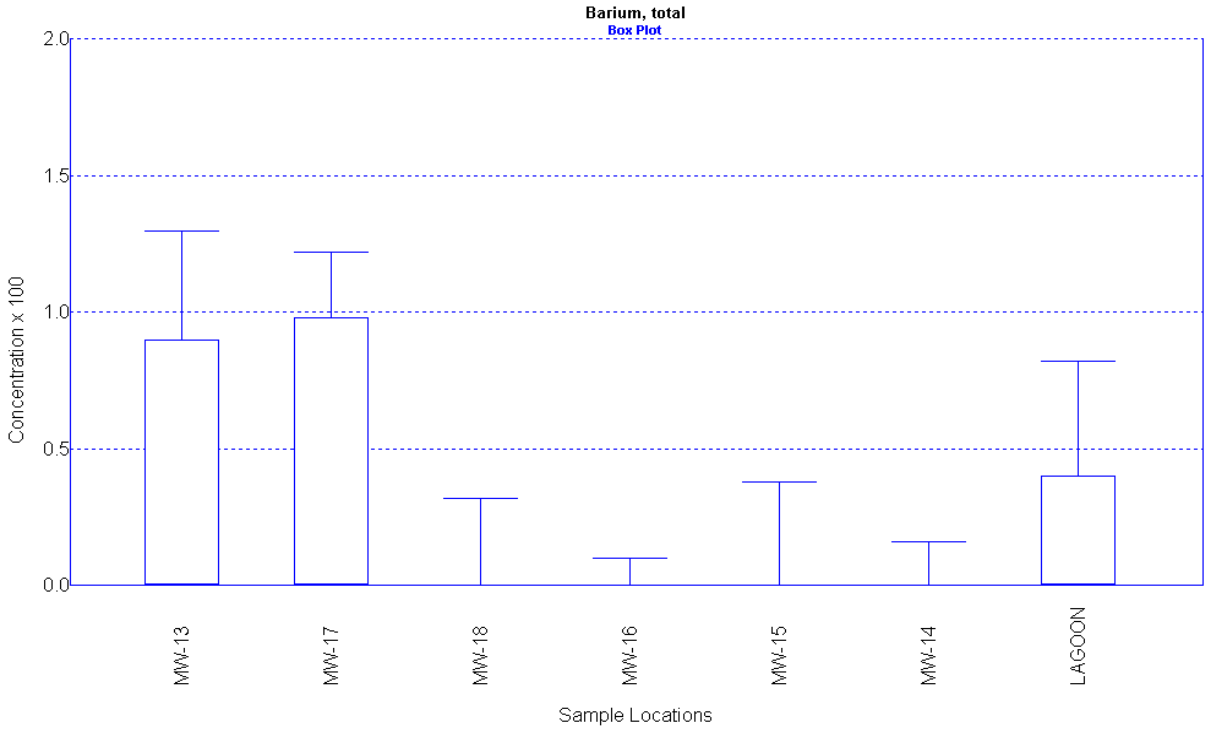
Barium, total

%ND	Normality	Method	ND Adj.	Upper Limit (a = 95%)	Unit
72.7273	-	Non-parametric tolerance limit	½ ND	250	ug/l

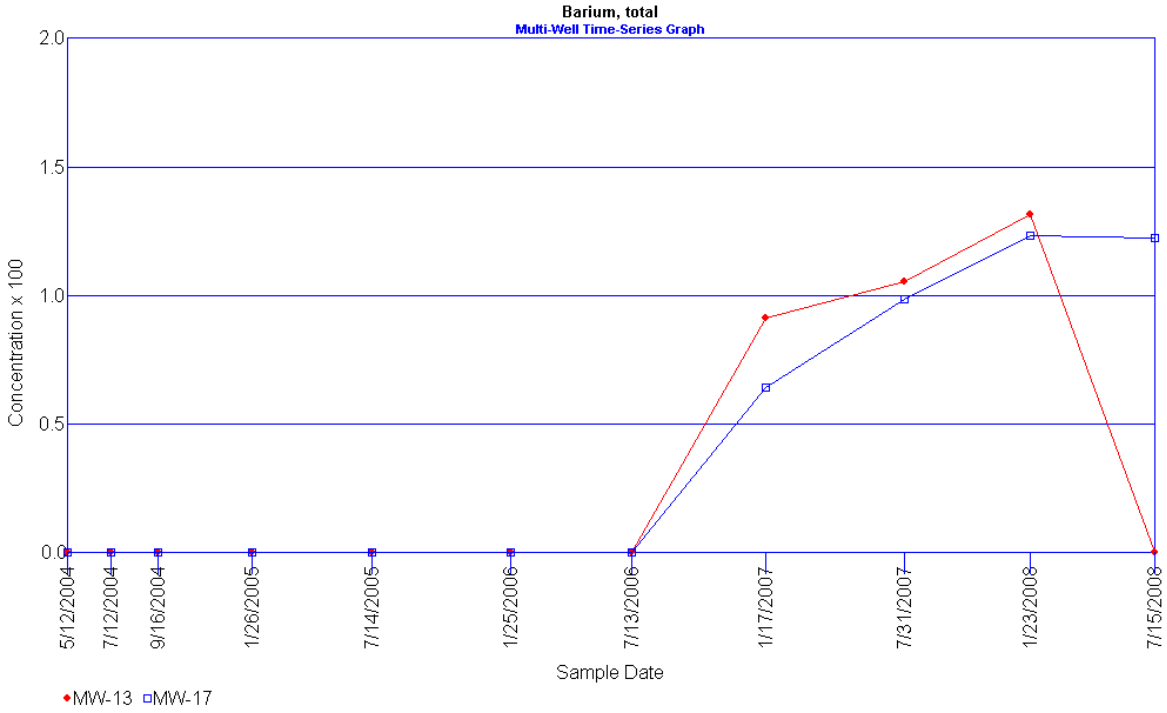
Well	Result	Significance
MW-17	122	no

NOTE: Bold-faced monitoring points indicate detected levels exceed North Carolina Groundwater Standard.

Box Plots for Select Constituents (Metals)
Lenoir County Subtitle D Lined Landfill



Time Series Plots for Select Constituents
Lenoir County Subtitle D Lined Landfill



Summary of Pooled VOCs in Background Well (MW-13)
Lenoir County Subtitle D Lined Landfill

Constituent	Samples	NDs	% NDs
1,1,1,2-Tetrachloroethane	11	11	100.00
1,1,1-Trichloroethane	11	11	100.00
1,1,2,2-Tetrachloroethane	11	11	100.00
1,1,2-Trichloroethane	11	11	100.00
1,1-Dichloroethane	11	11	100.00
1,1-Dichloroethene	11	11	100.00
1,2,3-Trichloropropane	11	11	100.00
1,2-Dibromo-3-chloropropane	11	11	100.00
1,2-Dibromoethane	11	11	100.00
1,2-Dichlorobenzene	11	11	100.00
1,2-Dichloroethane	11	11	100.00
1,2-Dichloropropane	11	11	100.00
1,4-Dichlorobenzene	11	11	100.00
2-Butanone	11	11	100.00
2-Hexanone	11	11	100.00
4-Methyl-2-Pentanone	11	11	100.00
Acetone	11	11	100.00
Acrylonitrile	11	11	100.00
Benzene	11	11	100.00
Bromochloromethane	11	11	100.00
Bromodichloromethane	11	11	100.00
Bromoform	11	11	100.00
Bromomethane	11	11	100.00
Carbon disulfide	11	11	100.00
Carbon tetrachloride	11	11	100.00
Chlorobenzene	11	11	100.00
Chloroethane	11	11	100.00
Chloroform	11	11	100.00
Chloromethane	11	11	100.00
cis-1,2-Dichloroethene	11	11	100.00
cis-1,3-Dichloropropene	11	11	100.00
Chlorodibromomethane	11	11	100.00
Dibromomethane	11	11	100.00
Ethylbenzene	11	11	100.00
Iodomethane	11	11	100.00
Dichloromethane	11	11	100.00
Styrene	11	11	100.00
Tetrachloroethylene	11	11	100.00
Toluene	11	11	100.00
trans-1,2-Dichloroethene	11	11	100.00
trans-1,3-Dichloropropene	11	11	100.00
trans-1,4-Dichloro-2-butene	11	11	100.00
Trichloroethylene	11	11	100.00
Trichlorofluoromethane	11	11	100.00
Vinyl acetate	11	11	100.00
Vinyl chloride	11	11	100.00
Xylene	11	11	100.00
Total	**517**	**517**	**100.00**

Poisson Prediction Interval Based upon Pooled Background VOCs
Lenoir County Subtitle D Lined Landfill

All detected VOCs (Background Well: MW-13)

Constituent	None
None	-
Detection(s) per Scan	0.00

Total number of sampling events [n] = 11
Total number of detections in background wells [y] = 0
Number of comparisons (downgradient wells) [k] = 5
One-sided value of Student's t-statistic (95% confidence) [t] = 2.78
Expected number of detections in a single future sample [y*] = **0.7038**

NO Statistically Significant VOC Detections at a 95% Confidence Level.

Basic Statistics

Basic Statistics

Parameter: Barium, total

Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

	Total Observations
68	
Total Non-Detects	52
Pooled Mean	174.422
Pooled Std Dev	103.239
Background Mean	188.823
Background Std Dev	90.4272

Background Wells

There is 1 background well

Well	Samples	Non-Detects	% ND	Total
MW-13	11	8	72.7273	2077.05

Well	Mean	Std Dev	Std Err	Rank Sum	Rank Mean
MW-13	188.823	90.4272	0	408	37.0909

Compliance Wells

There are 6 compliance wells

Well	Samples	Non-Detects	% ND	Total
MW-18	11	9	81.8182	1827.06
MW-17	11	7	63.6364	2157.1
MW-16	11	9	81.8182	1800.46
MW-15	11	9	81.8182	1856.06
MW-14	11	9	81.8182	1810.95
LAGOON	2	1	50	332

Well	Mean	Std Dev	Dif From Bkg	Std Err	Rank Sum	Rank Mean
MW-18	166.096	116.702	-22.7273	45.7776	352.5	32.0455
MW-17	196.1	76.3055	7.27682	45.7776	443.5	40.3182
MW-16	163.678	119.965	-25.1455	45.7776	345.5	31.4091
MW-15	168.732	113.187	-20.0909	45.7776	357.5	32.5
MW-14	164.632	118.634	-24.1909	45.7776	350.5	31.8636
LAGOON	166	118.794	-22.8232	82.5268	88.5	44.25

Analysis of Variance Statistics

SS Wells	11035.2
SS Total	714106

Kruskal-Wallis Statistics

Non-Detect Rank	26.5
Background Rank Sum	408
Background Rank Mean	37.0909
H Statistic	2.37378
H Adjusted for Ties	4.29342

Interwell Analyses for Metals

Non-Parametric Tolerance Interval

Parameter: Barium, total

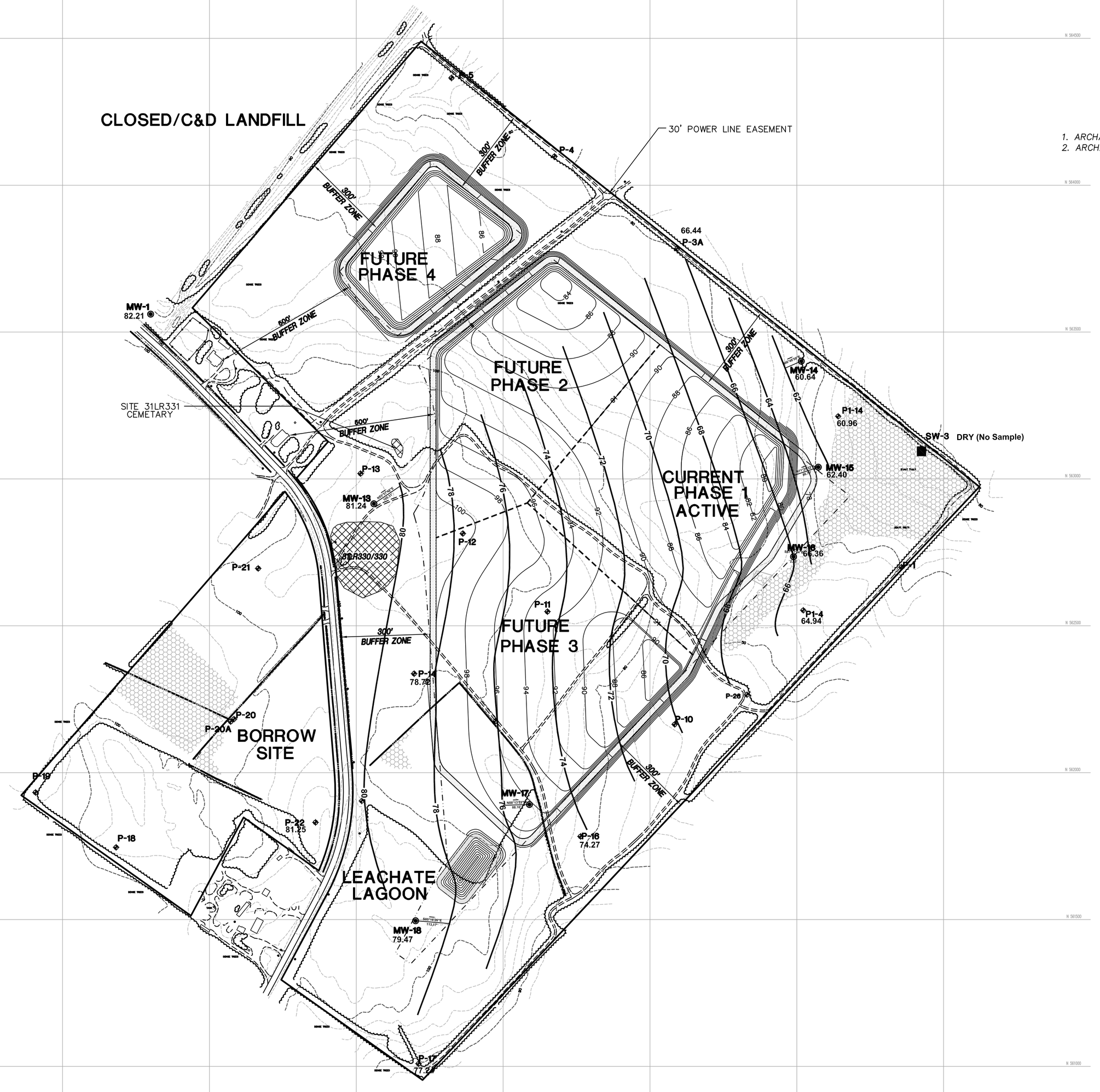
Original Data (Not Transformed)
Non-Detects Replaced with 1/2 DL

Total Percent Non-Detects = 68.1818%
Background Samples (n) = 11
Maximum Background Concentration = 250
Minimum Coverage = 76.2%
Average Coverage = 91.6667%

Well	Sample	Result	Impacted
MW-17	5/12/2004	ND<250	FALSE
MW-17	7/12/2004	ND<250	FALSE
MW-17	9/16/2004	ND<250	FALSE
MW-17	1/26/2005	ND<250	FALSE
MW-17	7/14/2005	ND<250	FALSE
MW-17	1/25/2006	ND<250	FALSE
MW-17	7/13/2006	ND<250	FALSE
MW-17	1/17/2007	64	FALSE
MW-17	7/31/2007	98.1	FALSE
MW-17	1/23/2008	123	FALSE
MW-17	7/15/2008	122	FALSE

LEGEND

- EXISTING CONTOURS
- 90 — PROPOSED BASE GRADE
- PROPERTY LINE
- EXISITING PATH
- BUFFER ZONE
- PHASES OF OPERATION
- EXISTING PIEZOMETER
- REF # — ARCHAEOLOGICAL SITES
- WETLANDS
- MONITORING WELL
- SURFACE WATER MONITORING SITE



NOTES

1. ARCHAEOLOGICAL SITE 31LR331 (CEMETARY) WILL NOT BE DISTURBED.
2. ARCHAEOLOGICAL SITE 31LR330 WILL BE DISTURBED.

Lenoir County Subtitle D Lined Landfill
January 23, 2008

WELL #	TOP OF PIPE ELEVATION (FT)	DEPTH TO WATER (FT)	WATER ELEVATION (FT)
MW-13	107.81	26.57	81.24
MW-14	74.81	14.26	60.55
MW-15	71.64	9.24	62.40
MW-16	76.36	10.00	66.36
MW-17	101.06	25.87	75.19
MW-18	106.74	27.27	79.47
P-3A	82.19	15.75	66.44
P1-4	78.80	13.86	64.94
P1-14	69.22	8.26	60.96
MW-1	98.34	16.13	82.21
P-14	104.07	25.35	78.72
P-16	93.82	19.55	74.27
P-17	90.57	13.33	77.24
P-22	110.40	29.15	81.25

Municipal Engineering Services Company, P.A.
P.O. BOX 97 GARNER, N.C. 27529 (919) 772-5393
P.O. BOX 346 BOONE, N.C. 28607 (828) 262-1767

SUBTITLE D LINED MSW LANDFILL FACILITY
LENOIR COUNTY
NORTH CAROLINA

DATE	BY	REV.	DESCRIPTION

SINGLE DAY POTENTIOMETRIC MAP

SCALE:	1"=200'
DATE:	4/8/2002
DRWN. BY:	K. Yoshida
CHKD. BY:	K. Yoshida
PROJECT NUMBER	G01046.6
DRAWING NO.	SHEET NO.

Laboratory Results

Environment 1, Incorporated

Drinking Water ID: 41715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/15/08
DATE REPORTED : 07/31/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	SW-3	MW-13	MW-14	MW-15	MW-16	Analysis Date	Analyst	Method Code
PH (field measurement), Units			Missing	4.4	4.7	4.6	4.8	07/15/08	RJH	SM4500HB
Antimony, ug/l	0.08	5.0	Missing	--- U	--- U	0.1 J	--- U	07/29/08	CMF	EPA200.8
Arsenic, ug/l	0.07	10.0	Missing	0.3 J	--- U	1.4 J	0.1 J	07/29/08	CMF	EPA200.8
Barium, ug/l	0.11	100.0	Missing	97.7 J	16.8 J	29.9 J	9.9 J	07/29/08	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	Missing	0.3 J	0.1 J	0.1 J	0.1 J	07/29/08	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	Missing	0.1 J	0.1 J	--- U	0.1 J	07/29/08	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0	Missing	1.5 J	0.4 J	0.7 J	0.2 J	07/29/08	CMF	EPA200.8
Copper, ug/l	0.05	10.0	Missing	0.9 J	--- U	0.3 J	--- U	07/29/08	CMF	EPA200.8
Total Chromium, ug/l	0.11	10.0	Missing	1.1 J	--- U	--- U	--- U	07/29/08	CMF	EPA200.8
Lead, ug/l	0.04	10.0	Missing	1.0 J	0.2 J	0.2 J	0.1 J	07/29/08	CMF	EPA200.8
Nickel, ug/l	0.06	50.0	Missing	3.0 J	0.5 J	0.8 J	0.2 J	07/29/08	CMF	EPA200.8
Selenium, ug/l	0.14	10.0	Missing	--- U	--- U	0.5 J	--- U	07/29/08	CMF	EPA200.8
Silver, ug/l	0.04	10.0	Missing	--- U	0.1 J	0.1 J	--- U	07/29/08	CMF	EPA200.8
Thallium, ug/l	0.04	5.0	Missing	0.1 J	0.2 J	0.1 J	--- U	07/29/08	CMF	EPA200.8
Vanadium, ug/l	0.07	25.0	Missing	2.3 J	0.2 J	0.3 J	0.2 J	07/29/08	CMF	EPA200.8
Zinc, ug/l	0.04	10.0	Missing	8.4 J	1.3 J	2.8 J	1.8 J	07/29/08	CMF	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	Missing	90	49	177	31	07/15/08	RJH	SM2510B
Temperature, °C			Missing	19	20	21	21	07/15/08	RJH	SM2550B
Static Water Level, feet				26.57	14.26	9.24	10.00	07/15/08	RJH	
Well Depth, feet				31.59	23.56	18.26	24.11	07/15/08	RJH	
8260 (duplicate)			Missing					/ /		

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37115
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/15/08
DATE REPORTED : 07/31/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	MW-17	MW-18	Piezometer #22	Pizeometer #1-4	Piezometer #1-14	Analysis Date	Analyst	Method Code
PH (field measurement), Units			4.2	4.9				07/15/08	RJH	SM4500HB
Antimony, ug/l	0.08	6.0	--- U	--- U				07/29/08	CMF	EPA200.8
Arsenic, ug/l	0.07	10.0	0.3 J	0.3 J				07/29/08	CMF	EPA200.8
Barium, ug/l	0.11	100.0	122	11.7 J				07/29/08	CMF	EPA200.8
Beryllium, ug/l	0.06	1.0	0.3 J	0.1 J				07/29/08	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	0.1 J	0.1 J				07/29/08	CMF	EPA200.8
Cobalt, ug/l	0.03	10.0	1.4 J	0.3 J				07/29/08	CMF	EPA200.8
Copper, ug/l	0.05	10.0	0.2 J	0.1 J				07/29/08	CMF	EPA200.8
Total Chromium, ug/l	0.11	10.0	0.4 J	1.0 J				07/29/08	CMF	EPA200.8
Lead, ug/l	0.04	10.0	2.9 J	0.8 J				07/29/08	CMF	EPA200.8
Nickel, ug/l	0.06	50.0	1.5 J	0.4 J				07/29/08	CMF	EPA200.8
Selenium, ug/l	0.14	10.0	0.2 J	--- U				07/29/08	CMF	EPA200.8
Silver, ug/l	0.04	10.0	--- U	--- U				07/29/08	CMF	EPA200.8
Thallium, ug/l	0.04	5.0	0.1 J	--- U				07/29/08	CMF	EPA200.8
Vanadium, ug/l	0.07	25.0	0.9 J	2.1 J				07/29/08	CMF	EPA200.8
Zinc, ug/l	0.04	10.0	5.3 J	3.7 J				07/29/08	CMF	EPA200.8
Conductivity (at 25c), uMhos	1.0	1.0	187	27				07/15/08	RJH	SM2510B
Temperature, °C			19	18				07/15/08	RJH	SM2550B
Static Water Level, feet			25.87	27.27	29.15	13.86	8.26	07/15/08	RJH	
Well Depth, feet			30.91	33.99				07/15/08	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/15/08
DATE REPORTED : 07/31/08

REVIEWED BY:

PARAMETERS	MDL	SWSL	Piezometer #14	Piezometer #3A	Piezometer #16	Piezometer #17	Analysis Date	Analyst	Method Code
Static Water Level, feet			25.35	15.75	19.55	13.33	07/15/08	RJH	

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053

ANALYST: MAO
DATE COLLECTED: 07/15/08
DATE ANALYZED: 07/29/08
DATE REPORTED: 07/31/08

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-13	MW-14	MW-15	MW-16	MW-17
1. Chloromethane	0.18	1.0	0.20 J	0.30 J	--- U	--- U	0.30 J
2. Vinyl Chloride	0.34	1.0	--- U	--- U	--- U	--- U	--- U
3. Bromomethane	0.26	10.0	--- U	--- U	--- U	--- U	--- U
4. Chloroethane	0.29	10.0	--- U	--- U	--- U	--- U	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U	--- U
7. Acetone	1.21	100.0	2.60 J	3.40 J	2.70 J	2.80 J	2.90 J
8. Iodomethane	0.12	10.0	--- U	--- U	--- U	--- U	--- U
9. Carbon Disulfide	0.14	100.0	--- U	--- U	--- U	--- U	--- U
10. Methylene Chloride	0.14	1.0	--- U	--- U	--- U	--- U	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U	--- U	--- U	--- U	--- U
13. Vinyl Acetate	0.20	50.0	--- U	--- U	--- U	--- U	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U	--- U	--- U	--- U	--- U
15. 2-Butanone	0.85	100.0	--- U	--- U	1.00 J	1.40 J	1.70 J
16. Bromochloromethane	0.11	3.0	--- U	--- U	--- U	--- U	--- U
17. Chloroform	0.13	5.0	--- U	--- U	--- U	--- U	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U	--- U	--- U	--- U	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U	--- U	--- U	--- U	--- U
20. Benzene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U	--- U	--- U	--- U	--- U
22. Trichloroethene	0.13	1.0	--- U	--- U	--- U	--- U	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U	--- U	--- U	--- U	--- U
24. Bromodichloromethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U	--- U	--- U	--- U	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U	--- U	--- U	--- U	--- U
27. Toluene	0.13	1.0	--- U	--- U	--- U	--- U	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U	--- U	--- U	--- U	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U	--- U	--- U	--- U	--- U
30. Tetrachloroethene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
31. 2-Hexanone	1.00	50.0	--- U	--- U	--- U	--- U	--- U
32. Dibromochloromethane	0.14	3.0	--- U	--- U	--- U	--- U	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U	--- U	--- U	--- U	--- U
34. Chlorobenzene	0.13	3.0	--- U	--- U	--- U	--- U	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U	--- U	--- U	--- U	--- U
36. Ethylbenzene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
37. Xylenes	0.48	5.0	--- U	--- U	--- U	--- U	--- U
38. Dibromomethane	0.17	10.0	--- U	--- U	--- U	--- U	--- U
39. Styrene	0.16	1.0	--- U	--- U	--- U	--- U	--- U
40. Bromoform	0.11	3.0	--- U	--- U	--- U	--- U	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U	--- U	--- U	--- U	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U	--- U	--- U	--- U	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U	--- U	--- U	--- U	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U	--- U	--- U	--- U	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U	--- U	--- U	--- U	--- U
46. Acrylonitrile	1.49	200.0	--- U	--- U	--- U	--- U	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U	--- U	--- U	--- U	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053

ANALYST: MAO
DATE COLLECTED: 07/15/08
DATE ANALYZED: 07/29/08
DATE REPORTED: 07/31/08

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	MW-18
1. Chloromethane	0.18	1.0	0.30 J
2. Vinyl Chloride	0.34	1.0	--- U
3. Bromomethane	0.26	10.0	--- U
4. Chloroethane	0.29	10.0	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U
7. Acetone	1.21	100.0	2.50 J
8. Iodomethane	0.12	10.0	--- U
9. Carbon Disulfide	0.14	100.0	--- U
10. Methylene Chloride	0.14	1.0	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U
13. Vinyl Acetate	0.20	50.0	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U
15. 2-Butanone	0.85	100.0	1.20 J
16. Bromochloromethane	0.11	3.0	--- U
17. Chloroform	0.13	5.0	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U
20. Benzene	0.16	1.0	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U
22. Trichloroethene	0.13	1.0	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U
24. Bromodichloromethane	0.13	1.0	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U
27. Toluene	0.13	1.0	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U
30. Tetrachloroethene	0.16	1.0	--- U
31. 2-Hexanone	1.00	50.0	--- U
32. Dibromochloromethane	0.14	3.0	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U
34. Chlorobenzene	0.13	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U
36. Ethylbenzene	0.16	1.0	--- U
37. Xylenes	0.48	5.0	--- U
38. Dibromomethane	0.17	10.0	--- U
39. Styrene	0.16	1.0	--- U
40. Bromoform	0.11	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U
46. Acrylonitrile	1.49	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment ?, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858
Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6053 **Week: 29**

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON NC 28502

(252) 566-5408

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ ____

	Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2
CHLORINE NEUTRALIZED AT COLLECTION								
pH CHECK (LAB)		<2				<2	<2	<2
CONTAINER TYPE, P/G	P	P	P	P		G	G	G
CHEMICAL PRESERVATION	A	A	A	A		E	E	E

CHEMICAL PRESERVATION: A - NONE, B - HNO_3, C - H_2SO_4, D - NAOH, E - HCL, F - ZINC ACETATE, G - NA THIOSULFATE

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2
~~SW-3~~	~~071508~~				4								
MW-13	071508	1030		19	5	G	G	G	G	G	G	G	G
MW-14	071508	0955		20	4	G	G	G	G	G	G	G	
MW-15	071508	1800		21	4	G	G	G	G	G	G	G	
MW-16	071508	1010		21	4	G	G	G	G	G	G	G	
MW-17	071508	1020		19	4	G	G	G	G	G	G	G	
MW-18	071508	1025		18	4	G	G	G	G	G	G	G	
Piezometer #22	071508				1					G			
Pizeometer #1-4	071508				1					G			
Piezometer #1-14	071508				1					G			
Piezometer #14	071508				1					G			

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY: (Y) N

SAMPLES COLLECTED BY: (Please Print) H Agee / Fox

SAMPLES RECEIVED IN LAB AT 0.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	COMMENTS
B&H Agee	071508 1:30	[signature]	7/15 1:30	SW3 DRY
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME	

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

№ 165564

FORM #5

Environmental, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6053 **Week:** 29

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON NC 28502

(252) 566-5408

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	Metals	Conductivity	Temperature	Field Parameter	EPA 8260B	8260 Dup. 1	8260 Dup. 2	PARAMETERS
						P	P	P	P		G	G	G	
						A	A	A	A		E	E	E	
Piezometer #3A	07	1508			1					☒				
Pizeometer #16	07	1508			1					☒				
Piezometer #17	07	1508			1					☒				

CHLORINE NEUTRALIZED AT COLLECTION

pH CHECK (LAB)

CONTAINER TYPE, P/G

CHEMICAL PRESERVATION

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:

☐ WASTEWATER (NPDES)

☐ DRINKING WATER

☐ DWQ/GW

☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY

(Y) N

SAMPLES COLLECTED BY: (Please Print)

SAMPLES RECEIVED IN LAB AT 0.8 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
[signature] 07	1508 1120	[signature]	7/15 1:30
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS:

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

№ 165563

FORM #5

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: 10

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

ID#: 6053 A

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON ,NC 28502

DATE COLLECTED: 07/17/08
DATE REPORTED : 08/29/08

REVIEWED BY:

PARAMETERS	MDL	Leachate SWSL		Analysis Date	Analyst	Method Code
PH (field measurement), Units			7.5	07/17/08	RJH	SM4500HB
BOD, mg/l	2.0	2.0	10	07/17/08	TRB	SM5210B
COD, mg/l	10.0	10.0	741	07/21/08	TRB	HACH8000
Total Suspended Residue, mg/l	1.0	1.0	1.1	07/17/08	MRJ	SM2540D
Ammonia Nitrogen, mg/l	0.04	0.04	45.40	07/22/08	ANO	EPA350.1
Total Kjeldahl Nitrogen, mg/l			70.95	07/21/08	ANO	EPA351.2
Nitrate Nitrogen, mg/l	0.03	10.0	0.47 J	07/18/08	TWA	EPA353.2
Total Phosphorus, mg/l	0.04	0.04	0.11	07/21/08	TWA	EPA365.4
Cyanide, ug/l	5.0	10.0	--- U	07/29/08	SEJ	SM4500 CN-E
Sulfate, mg/l	5.0	250.0	--- U	07/25/08	TRB	SM4500-SO4E
Arsenic, ug/l	0.07	10.0	4.4 J	07/29/08	CMF	EPA200.8
Cadmium, ug/l	0.04	1.0	--- U	07/29/08	CMF	EPA200.8
Copper, ug/l	0.05	10.0	4.7 J	07/29/08	CMF	EPA200.8
Total Chromium, ug/l	0.11	10.0	1.3 J	07/29/08	CMF	EPA200.8
Lead, ug/l	0.04	10.0	0.2 J	07/29/08	CMF	EPA200.8
Mercury, ug/l	0.01	0.20	--- U	07/29/08	CMF	EPA200.8
Molybdenum, ug/l	0.24	10	5.3 J	07/30/08	LFJ	EPA200.7
Nickel, ug/l	1.35	50.0	16.7 J	07/29/08	CMF	EPA200.8
Selenium, ug/l	0.14	10.0	5.9 J	07/29/08	CMF	EPA200.8
Silver, ug/l	0.04	10.0	--- U	07/29/08	CMF	EPA200.8
Zinc, ug/l	1.86	10.0	5.0 J	07/29/08	CMF	EPA200.8

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environment 1, Incorporated

Drinking Water ID: 37715
Wastewater ID: IO

P.O. BOX 7085, 114 OAKMONT DRIVE
GREENVILLE, N.C. 27835-7085

PHONE (252) 756-6208
FAX (252) 756-0633

CLIENT: LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON, NC 28502

CLIENT ID: 6053 A

ANALYST: MAO
DATE COLLECTED: 07/17/08
DATE ANALYZED: 07/31/08
DATE REPORTED: 08/29/08

REVIEWED BY:

VOLATILE ORGANICS
EPA METHOD 8260B

PARAMETERS, ug/l	MDL	SWSL	Leachate
1. Chloromethane	0.18	1.0	--- U
2. Vinyl Chloride	0.34	1.0	--- U
3. Bromomethane	0.26	10.0	--- U
4. Chloroethane	0.29	10.0	--- U
5. Trichlorofluoromethane	0.13	1.0	--- U
6. 1,1-Dichloroethene	0.14	5.0	--- U
7. Acetone	1.21	100.0	--- U
8. Iodomethane	0.12	10.0	--- U
9. Carbon Disulfide	0.14	100.0	--- U
10. Methylene Chloride	0.14	1.0	--- U
11. trans-1,2-Dichloroethene	0.13	5.0	--- U
12. 1,1-Dichloroethane	0.16	5.0	--- U
13. Vinyl Acetate	0.20	50.0	--- U
14. Cis-1,2-Dichloroethene	0.14	5.0	--- U
15. 2-Butanone	0.85	100.0	--- U
16. Bromochloromethane	0.11	3.0	--- U
17. Chloroform	0.13	5.0	--- U
18. 1,1,1-Trichloroethane	0.11	1.0	--- U
19. Carbon Tetrachloride	0.13	1.0	--- U
20. Benzene	0.16	1.0	--- U
21. 1,2-Dichloroethane	0.12	1.0	--- U
22. Trichloroethene	0.13	1.0	--- U
23. 1,2-Dichloropropane	0.17	1.0	--- U
24. Bromodichloromethane	0.13	1.0	--- U
25. Cis-1,3-Dichloropropene	0.17	1.0	--- U
26. 4-Methyl-2-Pentanone	0.68	100.0	--- U
27. Toluene	0.13	1.0	--- U
28. trans-1,3-Dichloropropene	0.14	1.0	--- U
29. 1,1,2-Trichloroethane	0.20	1.0	--- U
30. Tetrachloroethene	0.16	1.0	--- U
31. 2-Hexanone	1.00	50.0	--- U
32. Dibromochloromethane	0.14	3.0	--- U
33. 1,2-Dibromoethane	0.13	1.0	--- U
34. Chlorobenzene	0.13	3.0	--- U
35. 1,1,1,2-Tetrachloroethane	0.14	5.0	--- U
36. Ethylbenzene	0.16	1.0	--- U
37. Xylenes	0.48	5.0	--- U
38. Dibromomethane	0.17	10.0	--- U
39. Styrene	0.16	1.0	--- U
40. Bromoform	0.11	3.0	--- U
41. 1,1,2,2-Tetrachloroethane	0.16	3.0	--- U
42. 1,2,3-Trichloropropane	0.06	1.0	--- U
43. 1,4-Dichlorobenzene	0.21	1.0	--- U
44. 1,2-Dichlorobenzene	0.13	5.0	--- U
45. 1,2-Dibromo-3-Chloropropane	0.26	13.0	--- U
46. Acrylonitrile	1.49	200.0	--- U
47. trans-1,4-Dichloro-2-Butene	0.14	100.0	--- U

J = Between MDL and SWSL, U = Below ALL Quanititation Limits.

Environmental, Inc.
P.O. Box 7085, 114 Oakmont Dr.
Greenville, NC 27858

Phone (252) 756-6208 • Fax (252) 756-0633

CHAIN OF CUSTODY RECORD

CLIENT: 6053 A **Week:** 29

LENOIR CO. LANDFILL (NEW)
COUNTY OF LENOIR
MR. TOM MILLER
P.O. BOX 756
KINSTON NC 28502

(252) 566-5408

DISINFECTION: ☐ CHLORINE ☐ UV ☐ NONE ☐ _____

SAMPLE LOCATION	COLLECTION DATE	COLLECTION TIME	TOTAL CHLORINE, mg/l AT COLLECTION	TEMPERATURE, °C AT COLLECTION	# OF CONTAINERS	Field pH	BOD	COD	TSR	Ammonia Nitro.	TKN	Nitrate	T. Phosphorus	Cyanide	Sulfate	Metals	EPA 625	625 Duplicate 1	625 Duplicate 2	EPA 8260B	8260 Dup. 1
CHLORINE NEUTRALIZED AT COLLECTION																					
pH CHECK (LAB)								<2		<2	<2		<2	>12							
CONTAINER TYPE, P/G						P	P	P	P	P	P	P	P	P	P	P	G	G	G	G	G
CHEMICAL PRESERVATION						A	A	C	A	C	C	A	C	D	A	A	A	A	A	E	E
Leachate	7-17-08	10:45AM		71°	16																

PARAMETERS

A - NONE D - NAOH
B - HNO_3 E - HCL
C - H_2SO_4 F - ZINC ACETATE
G - NA THIOSULFATE

CLASSIFICATION:
☐ WASTEWATER (NPDES)
☐ DRINKING WATER
☐ DWQ/GW
☒ SOLID WASTE SECTION

CHAIN OF CUSTODY MAINTAINED DURING SHIPMENT/DELIVERY (Y) N

SAMPLES COLLECTED BY: (Please Print)
GENE STALLINGS

SAMPLES RECEIVED IN LAB AT 0.9 °C

RELINQUISHED BY (SIG.) (SAMPLER)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
Gene Stallings	7-17-08 10:45AM	B Jetton	7/17 2:00
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME
RELINQUISHED BY (SIG.)	DATE/TIME	RECEIVED BY (SIG.)	DATE/TIME

COMMENTS: 71° water temps
82° air temps
PH 7.29

Instructions for completing this form are on the reverse side.

Sampler must place a "C" for composite sample or a "G" for Grab sample in the blocks above for each parameter requested.

№ 169722

FORM #5